



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/691,297      | 10/22/2003  | Geary G. Parke       | 107725/00006        | 2242             |

7590 07/09/2007  
Miller, Canfield, Paddock and Stone P.L.C.  
c/o Robert Kelley Roth  
Suite 2500  
150 West Jefferson Ave.  
Detroit, MI 48226

|          |
|----------|
| EXAMINER |
|----------|

SAVAGE, MATTHEW O

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1724

|           |               |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

07/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/691,297 | <b>Applicant(s)</b><br>PARKE, GEARY G. |  |
|                              | <b>Examiner</b><br>Matthew O. Savage | <b>Art Unit</b><br>1724                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 4-30-07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 and 10-12 is/are allowed.
- 6) ☒ Claim(s) 7-9 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Gershon et al.

With respect to claim 9, Gershon et al disclose an adsorption apparatus for treatment of wastewater without the use of ion exchange techniques including an inlet 522 for the wastewater connected to a metals trap which adsorbs metals (e.g., the lower bed 530, see FIG. 5 and line 5 of col. 5), a second trap (e.g., the middle bed) which adsorbs organic materials and metals from the wastewater (see lines 5-6 of col. 5), positioned between the inlet and the metals trap, wherein the second trap at least partially comprises a phosphate (e.g., when apatite is included, see lines 4-5 of col. 6); activated carbon in at least one of the second trap and the metals trap (see line 54 of col. 11); a chamber containing the metals trap and a second chamber containing the phosphate (e.g., defined by casing 510 and retainers 540 and 542), wherein a flow of wastewater travels from the inlet to the metals and an oxidizer incorporated as part of at least one of the metals trap and the second trap.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gershon et al in view of Berardi.

With respect to claim 7, Gershon et al disclose an adsorption apparatus for treatment of wastewater without the use of ion exchange techniques including an inlet 522 for the wastewater connected to a metals trap which adsorbs metals (e.g., the lower bed 530, see FIG. 5 and line 5 of col. 5); and a second trap (e.g., the middle bed) which adsorbs organic materials and metals from the wastewater (see lines 5-6 of col. 5), positioned between the inlet and the metals trap, activated carbon in at least one of the second trap and the metals trap when activated carbon is included (see line 54 of col. 11); wherein the second trap at least partially comprises a phosphate (e.g., when apatite is included, see lines 4-5 of col. 6) having a particle size greater than 60 mesh but less than 30 mesh (see lines 53-57 of col. 9, the particles passing through a 30 mesh screen whereas 90% are retained by a 60 mesh screen); and a chamber containing the metals trap and a second chamber containing the phosphate (e.g., defined by casing 510 and retainers 540 and 542), wherein a flow of wastewater travels from the inlet to the metals trap. Gershon et al fail to specify the phosphate as having a particle size of 4 to 34 mesh. Berardi discloses that it is known to provide a particle size of 10-50 mesh for a particulate adsorbent filter and suggests that such a size range facilitates the removal of both large and small elements of foreign matter from a liquid (see lines 43-52 of col. 2). It would have been obvious to have modified the apparatus of Gershon et al so as to have included the particle size range as suggested by Berardi

Art Unit: 1724

in order to facilitate the removal of both large and small elements of foreign matter from a liquid.

With respect to claim 8, Gershon et al disclose an adsorption apparatus for treatment of wastewater without the use of ion exchange techniques including an inlet 522 for the wastewater connected to a metals trap (e.g., the lower bed) which adsorbs metals; a second trap (e.g., the middle bed) which adsorbs organic materials and metals from the wastewater, positioned between the inlet and the metals trap, wherein the second trap at least partially comprises a phosphate (e.g., apatite); activated carbon in at least one of the second trap and the metals trap; a chamber containing the metals trap and a second chamber containing the phosphate (e.g., defined by the casing 510 and retainers 540, 542), wherein a flow of wastewater travels from the inlet to the metals trap. Gershon et al fail to specify a plurality of valves for each chamber, controlled by a corresponding controller in one of an operational mode and a diagnostic/service mode; and a drain positioned on each chamber and at least one valve on each chamber; wherein in the diagnostic/service mode each chamber can be isolated from the flow of wastewater and the corresponding drain can be opened, permitting flow through the drain. Bernardi disclose an analogous filter including a plurality of valves 38, 80 for each chamber 12, controlled by a corresponding controller (e.g., a human operator) in one of an operational mode and a diagnostic/service mode; and a drain 44 positioned on each chamber and at least one valve 38 on each chamber; wherein in the diagnostic/service mode each chamber can be isolated from the flow of wastewater and the corresponding drain can be opened, permitting flow through the

Art Unit: 1724

drain (see from line 61 of col. 2 to line 18 of col. 3) and suggests that such an arrangement enables regeneration of the adsorbent filter. It would have been obvious to have modified the apparatus of Gershon et al so as to have include chambers, valves, and controllers as suggested by Bernardi in order to enable regeneration of each of the adsorbent filters.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gershon et al in view of Lewis.

With respect to claim 21, Gerson et al disclose an adsorption apparatus for treatment of wastewater including an inlet 522 for the wastewater connected to a metals trap which adsorbs metals (e.g., the lower bed 530, see FIG. 5 and line 5 of col. 5); a first trap capable of filtering solids from the wastewater of greater than a predetermined size (e.g., the lower bed) and includes charcoal (see line 25 of col. 11); a second trap (e.g., the middle bed) which adsorbs organic materials and metals from the wastewater, is positioned between the inlet and the metals trap, wherein the second trap and at least partially comprises a phosphate (e.g., apatite, see lines 4-5 of col. 6); a first chamber which contains the first trap and is positioned between the inlet and a second chamber containing the phosphate, and a third chamber containing the metals trap (e.g., the chambers defined by the casing 510 and retainers 540 and 542), wherein a flow of wastewater travels from the inlet to the metals trap. Gerson et al fail to specify permanganate incorporated as part of at least one of the metals trap and the second trap. Lewis discloses the concept of including permanganate as part of a trap formed

Art Unit: 1724

from activated carbon and teaches that such a substance functions as a germicide. It would have been obvious to have modified the traps of Gerson et al so as to have included permanganate as suggested by Lewis in order to incorporate a germicide into the traps.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1724

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Matthew Savage*  
Matthew O Savage  
Primary Examiner  
Art Unit 1724

mos